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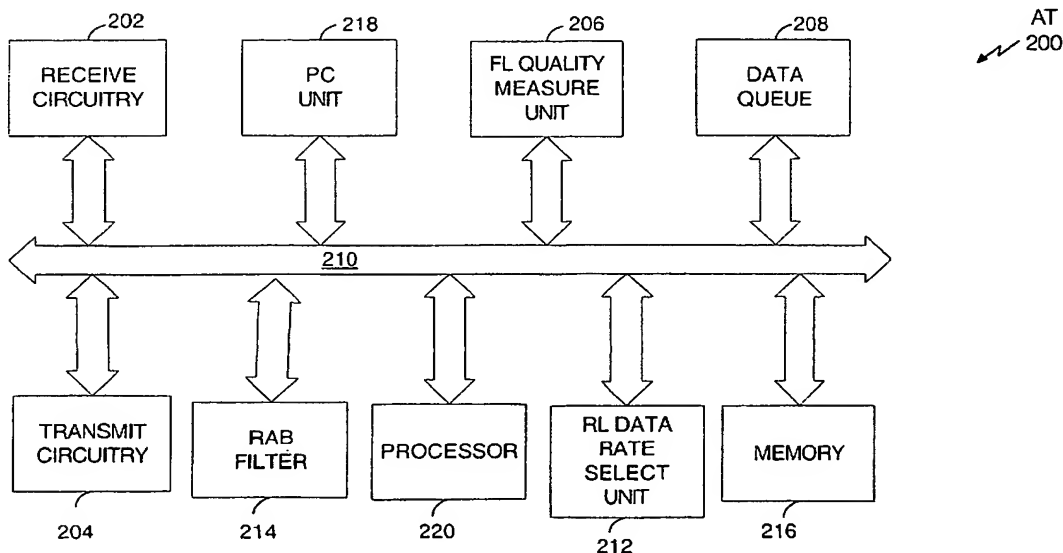
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[Continued on next page]

(54) Title: **WIRELESS COMMUNICATION RATE SHAPING**



(57) Abstract: Reverse Link (RL) data rate allocation in a High Data Rate (such as 1xEV-DO) system as a function of Forward Link (FL) channel quality. Rate shaping of a throughput profile for multiple Access Terminals (ATs) is performed by adjusting transition probabilities associated with a data rate allocation algorithm. The RL maximum data rate per AT is adjusted to reduce the loading in a designated area and result in rate shaping of the cell and/or sector. In one embodiment, the maximum data rates are adjusted as a function of the FL Signal to Interference and Noise Ratio (SINR), such as measured per serving sector or as a captured sum total of FL SINR. In still another embodiment, the maximum data rates are adjusted as a function of differences in riseover-thermal values between neighboring sectors.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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## IPC 7 H04Q7/38

**B. FIELDS SEARCHED**

IPC 7 H04Q H04B

EPO-Internal, WPI Data

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/23844 A (QUALCOMM INC) 14 May 1999 (1999-05-14)	1,2,4,5, 8,11,19, 20
Y	page 5, line 32 - page 6, line 6 page 36, line 34 - page 37, line 32 page 40, line 32 - page 41, line 21 page 44, line 12 - page 45, line 11 page 46, line 15 - page 47, line 9 figure 28 table 5  ----- -/--	3

☒ Patent family members are listed in annex.

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

16.08.04

Rosenauer, H

## INTERNATIONAL SEARCH REPORT

Int. Application No.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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# INTERNATIONAL SEARCH REPORT

national application No.  
PCT/US 03/36085

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-21, 33-36

The first invention relates to methods and corresponding apparatus for determining the channel quality measuring different parameters, determining a maximum reverse link data rate depending on the channel quality. This relates to the problem of how to improve the performance of a wireless communication system.

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2. claims: 22-32

This invention concerns, as no advantageous effects could be seen with the prior art disclosed in document D1 methods and corresponding apparatus for providing an alternative solution to determine whether a reverse link rate should be increased or decreased. This problem is solved by transition probabilities corresponding to a plurality of data rates, wherein said transition probabilities are adjusted and applied to determine the change of a reverse link data rate.

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Information on patent family members

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